CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 85-66

WASTE DISCHARGE REQUIREMENTS FOR:

MOFFETT FIELD NAVAL AIR STATION,
SUNNYVALE,
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

1. Moffett Field Naval Air Station (hereinafter called the discharger) occupys approximately 4,000 acres of land located between the Cities of Mountain View and Sunnyvale, Santa Clara County (See Site Map - Attachment 1). The discharger commenced operations at this site in 1933. Since its beginning the discharger's site has been utilized for a number of military (both Army and Navy) operations including assembly, overhaul, repair, fueling, and landing facilities for airships (dirigibles, helicopters, airplanes and jets). These operations have involved the storage, handling, and disposal of vast amounts of raw and waste product hazardous materials. The hazardous materials used on-site, either currently or historically, include trichloroethene (TCE), 1,1,1-trichloroethane (TCA), transformer oil possibly containing polychlorinated biphenyls (PCBs), various pesticides, and other organic solvents.

2. The Navy conducted an Initial Assessment Study (IAS) in 1983 to identify possible environmental contamination from past use and disposal of hazardous materials on-site. Nine sites at Moffett Field were identified by the IAS where potentially hazardous materials were disposed or spilled.

3. Subsurface investigations were initiated at four of the identified nine sites in April 1983. The investigations revealed organic chemical pollution (primarily TCE) in both soil and groundwater at all four sites.

4. Subsequent to the initial investigations, the discharger has undertaken follow-up investigations to define the extent of pollution at those four sites where pollution has been

detected. To date, a total of 22 monitoring wells have been installed by the discharger to define the existence of and the extent of pollution. However, the pollution plume has not been completely defined, and no cleanup or containment has begun.

5. The levels of pollution present are of particular concern due to the close proximity (less than two miles) of one of the City of Mountain View's domestic water supply wells, and a number of private wells. No organic solvent pollutant has been detected in the City of Mountain View's wells, which are sampled monthly by the City.

6. The discharger submitted a proposed soil and groundwater investigation report to the Regional Board staff on February 1, 1985. The report proposes an additional thirty-three monitoring wells and twenty-six soil borings to further define the extent of pollution in the known four polluted sites and to determine whether pollution exists in five other potential pollution sites.

7. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on July 21, 1982. The Basin Plan contains water quality objectives for South San Francisco Bay, and contiguous surface waters, and groundwaters.

8. The beneficial uses of South San Francisco Bay, contiguous water bodies, and groundwaters are:

   - Municipal Water Supply
   - Domestic Water Supply
   - Water Contact recreation
   - Non-contact water recreation
   - Wildlife Habitat
   - Estuarine Habitat
   - Warm and Cold Fresh Water Habitat
   - Fish Migration
   - Industrial service and process supply
   - Navigation
   - Agricultural Water Supply

9. Guidance has been provided to the discharger on the investigation and cleanup of soil and groundwater pollution cases. This guidance is contained in the document entitled "Regional Board Staff Guidelines With Respect To Establishing A Procedure To Identify Water Quality Objectives For Hazardous Material Site Clean-up".

Additional guidance is provided in the report entitled "Regional Board Consideration of Groundwater Contamination Cases" dated March 6, 1984. Based on the Basin Plan and on the non-degradation policy of the State Water Resources Control Board (SWRCB), these guidelines state that currently unpolluted areas should remain so, and that polluted areas should be restored to pre-pollution quality, unless the Board determines that some water quality degradation will not unreasonably affect beneficial uses and is consistent with maximum benefit to the people of the State. The initial requirement for groundwater pollution cases is to fully characterize the pollution plume's degree and extent.

10. The Board has notified all interested agencies and persons of its intent to prescribe waste discharge requirements for this discharger.

11. The Board, at a public meeting, heard and considered all comments pertaining to this discharge.

12. This project constitutes a minor modification to land and such activity is thereby exempt from the provisions of the California Environmental Quality Act (CEQA) in accordance with Section 15304, Title 14, of the California Administrative Code.

IT IS HEREBY ORDERED, that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. The discharge of wastes or hazardous materials in a manner which will degrade the beneficial uses of the groundwaters of the State is prohibited.

2. The discharge of wastes or hazardous materials through surface runoff or through subsurface transport which will degrade the beneficial uses of surface waters of the State is prohibited.

3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of the pollution is prohibited.

4. Containment and/or cleanup of polluted groundwater at any of the nine sites on the discharger's facility shall not cause the spread of pollution in an adverse manner from an adjoining facility, discharger or otherwise polluted site.

B. SPECIFICATIONS

1. The lateral and vertical extent of soil and groundwater pollution shall be defined at all sites.

2. The potential for private wells in the area of the pollution to act as conduits for the spread of the pollution shall be identified. Wells identified as actual or potential conduits shall be properly sealed or abandoned, to the extent legally possible.

3. The local and regional hydrogeologic conditions shall be defined in the areas of and contiguous to the known pollution.

4. Additional migration of groundwater pollutants caused by the discharger from the collective sites and related off-site areas of the plume(s) shall be prevented.

C. PROVISIONS

1. The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in Section 13050(m) of the California Water Code.

2. The discharger shall submit to the Board technical reports on self-monitoring work performed according to a program approved by the Board's Executive Officer.

3. In order to comply with Specification B.1 for sites 1, 2, 5, 8 and 9 (identified in the Initial Assessment Study), the discharger, to the extent responsible, shall meet the following compliance time schedule:

TASK	COMPLIANCE DATE
a. Determine if the soil and/or groundwater is polluted at each site in the shallow aquifer system ("A" aquifer)	October 1, 1985
b. Submit technical report transmitting the results of investigation described in Provision 3.a.	November 1, 1985
c. Based upon the findings reported under Provision 3.b., submit a proposal and time schedule to address the further definition of any "A" aquifer system pollution identified and determine if the groundwater is polluted in the next deeper aquifer system ("B" aquifer), as appropriate for each site	November 15, 1985
d. Submit technical report transmitting the results of investigation described in Provision 3.c., including a proposal and time schedule to address full definition of the pollution in the "A" and "B" aquifers and determine if the groundwater is polluted in the next deeper aquifer system ("C" aquifer) below any polluted "B" aquifer system, as appropriate for each site	June 1, 1986

4. In order to comply with Specification B.1 for sites 3, 4, 6 and 7, the discharger, to the extent responsible, shall meet the following compliance time schedule:

TASK	COMPLIANCE DATE
a. Further define the extent of pollution in the "A" and "B" aquifer systems, as appropriate for each site	October 1, 1985

TASK	COMPLIANCE DATE
b. Determine if the groundwater is polluted in the next deeper aquifer system ("C" aquifer) below any polluted "B" aquifer system, as appropriate for each site	October 1, 1985
c. Submit technical report transmitting the results of investigation described in Provisions 4.a and 4.b.	November 1, 1985
d. Based upon the findings reported under Provision 4.c., submit a proposal and time schedule to address the full definition of the "A" and "B" aquifer systems and further definition of any "C" aquifer system pollution identified, as appropriate for each site	November 15, 1985
e. Submit technical report transmitting the results of investigation described in Provision 4.d	June 1, 1986

5. In order to comply with Specification B.2., the discharger, to the extent responsible, shall meet the following compliance time schedule:

TASK	COMPLIANCE DATE
a. Identify private wells, to the extent feasible, in the vicinity of the site with potential to act as conduits for inter-aquifer cross-contamination	November 1, 1985
b. Locate and collect additional information on private wells identified in Provision 5.a. to assess if the wells may be potential conduits for inter-aquifer cross-contamination	January 1, 1986

TASK	COMPLIANCE DATE
c. Develop a program to respond to any potential conduits and submit a technical report with options for addressing closure	February 1, 1986

6. In order to comply with Specification B.3., the discharger, to the extent responsible, shall:

   a. Assess the influence, if any, the various pumping wells (in particular the municipal wells) in the area may have on the groundwater gradients in each affected aquifer zone.

   b. Determine the groundwater gradient(s) in each aquifer identified in the study area.

   c. Define the hydrogeologic properties and lateral continuity of the various aquifers and aquitards in the study area. The hydrogeologic properties of the aquifers and aquitards shall be characterized by conducting appropriate hydrologic tests (e.g. aquifer pump tests, permeability tests, and geophysical logging).

7. Documentation of compliance with Specifications B.1 and B.3 and Provisions 3(a-d), 4(a-c) and 6(a-c) above shall include groundwater gradient contour maps, pollution concentration contour maps, and cross-sectional geologic maps. The spacing of the monitoring wells and/or borings shall be sufficiently close to reduce errors in interpretation between data points. This documentation shall be updated and submitted with each technical report required under this Order, as appropriate.

8. Interim containment of the pollution plume shall commence in areas of known pollution as soon as practicable, but in any event shall not be delayed pending defining the full extent of pollution in any aquifer. The interim cleanup and containment plans, including time schedule, shall be submitted by the discharger by January 15, 1986.

9. The discharger shall submit detailed bi-monthly reports on its progress toward compliance with the Provisions specified in this Order, including specific actions taken and actions proposed prior to the next report.

10. All samples shall be analysed by State certified laboratories using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Board review.

11. The discharger shall permit the Board or its authorized representative, in accordance with Section 13267(c) of the California Water Code:

    a. Entry upon premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept.

    b. Access to copy any records required to be kept under terms and conditions of this Order.

    c. Inspection of any monitoring equipment or methods required by this Order.

    d. Sampling of any groundwater or soil which is accessible, or may become accessible as part of any investigation or remedial action program, to the discharger.

12. The discharger shall maintain in good working order and operate, as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.

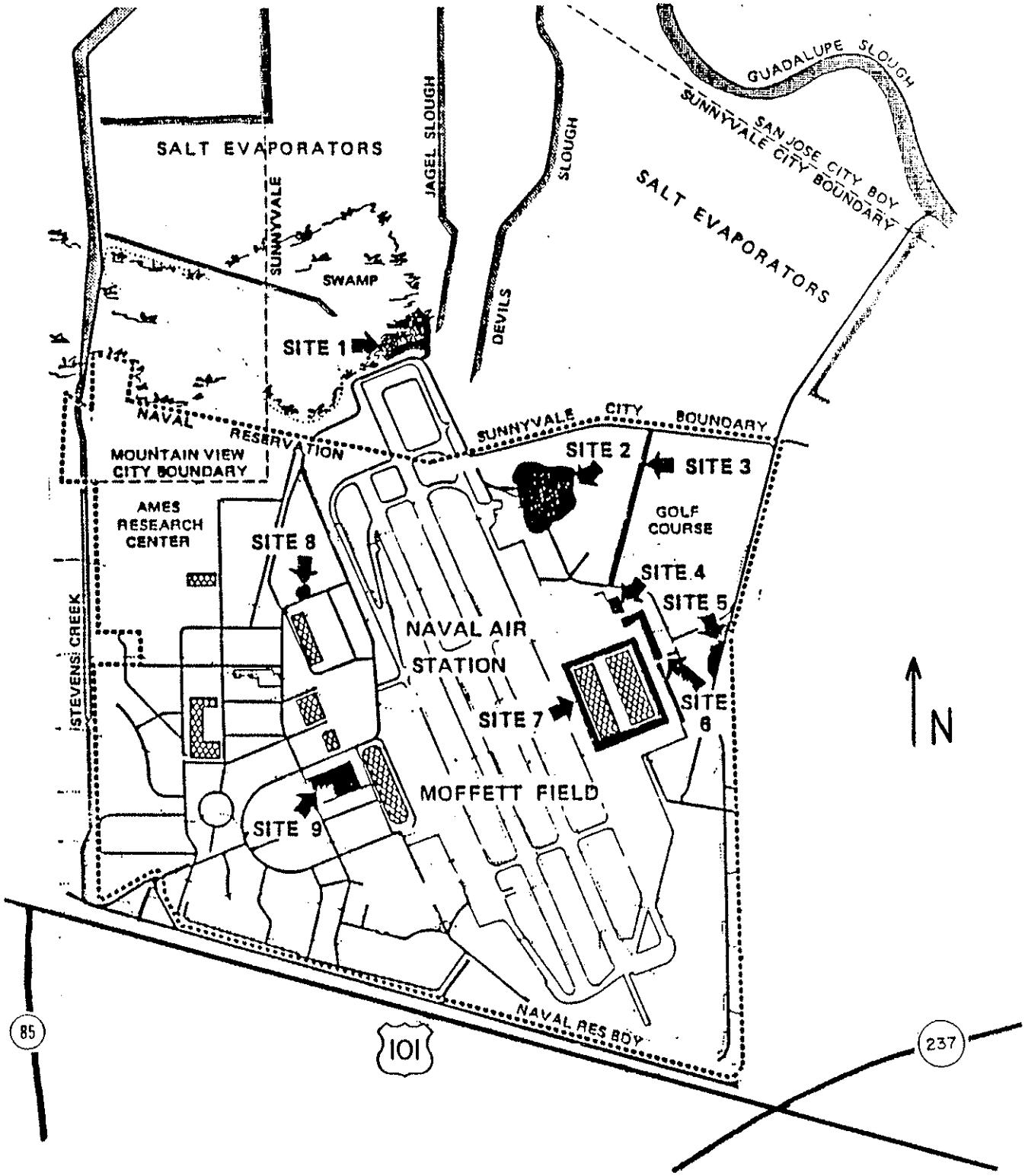
13. The Board will review this Order periodically and may revise the requirements when necessary. Interim and final cleanup limits shall be established by Board action once compliance with Specifications B.1, B.2, and B.3 are achieved.

I, Roger B. James, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 15, 1985.

ROGER B. JAMES
Executive Officer

Attachment:

1. Site Map



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STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ATTACHMENT 1 SITE MAP

MOFFETT FIELD NAVAL AIR STATION

SUNNYVALE, CA

DRAWN BY: TJB	DATE: 4-11-85	DRWG. NO. 001